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To: Catherine P. Awakuni, Commission Counsel
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From: Carl Freedman

Re: Act 95 Workshops – Comments on Second Concept Paper

The comments below respond to the invitation for comments in the Commission's letter regarding the Act 95 Workshops dated July 26, 2005 and the accompanying document "Proposals for Implementing Renewable Portfolio Standards in Hawaii" dated July 26, 2005 (Second Concept Paper).

These comments are my own. I do not represent any client in this matter.

CONTEXT

The comments below are drafted for purposes of promoting meaningful discussion at the workshops on October 3, 4 and 5, 2005. I have purposefully staked out several assertions to focus discussion on what I think are important considerations. Some of these assertions ultimately may prove untenable in light of the collective wisdom gathered at the workshops. In fact, I truly hope that my pessimistic view of the limited potential of Act 95 might be enlightened at the workshops.

I have focused on several particular things:

- Simplicity in administration of any new regulatory mechanisms
- The need to consider the burdens and costs of mechanisms compared to expected benefits
- Distinctions between the realms "above and below avoided cost"

I provide some general comments, followed by four additional candidate mechanisms for consideration, some specific comments on the seven mechanisms described in the Second Concept Paper, and some questions for framing the quantitative analyses. At the end of the comments I identify a list of assertions regarding Act 95 that form the basis of my comments.

Please consider these comments to the extent that they are helpful.

GENERAL COMMENTS

(1) AN IMPORTANT DETERMINATION IS WHETHER ACT 95 HAS SUFFICIENT BENEFICIAL POTENTIAL TO MERIT RIGOROUS IMPLEMENTATION.

The Act has several provisions that substantially limit its effectiveness. At the same time many of the suggested approaches to implement the Act would require substantial effort and cost. Do the benefits of implementing Act 95 justify the burdens and costs of extensive mechanisms or the provision of generous utility incentives?

The purposes identified in the preamble of Act 95 are to reduce fossil fuel use and promote the implementation of renewable resources in Hawaii. The Act is problematic, however, and is hobbled by several substantial limitations. These include (1) a lack of any mandatory provisions, (2) a scope bounded by an avoided cost ceiling and (3) a categorical requirement to ensure that any provisions implementing the Act do not harm utility profit margins. If Act 95 is implemented strictly in accordance with its own provisions and within its bounded scope, there is a real concern that it will be ineffectual.

Some estimate of the potential effectiveness of Act 95 could be informed by quantitative analysis. In particular, estimates could be made of (a) the extent to which the magnitude of the portfolio standards represent a real challenge or whether they might be already or easily attained without extensive mechanisms or incentives[1] and (b) the extent that the candidate proposed mechanisms are likely to change the level of attainment of the portfolio standards.

Even without the benefit of any quantitative estimates, however, it is clear that the potential effectiveness of Act 95, if strictly interpreted, is very limited. The provisions of the Act are not mandatory.[2] The Act prohibits any mechanism that could possibly decrease utility profits.[3] It is therefore difficult to envision comporting mechanisms that provide any teeth to the portfolio standards.[4] Furthermore, the entire Act is limited to promoting only energy use that can be implemented at or below avoided cost. These resources are already required by existing laws and regulations including the Public Utility Regulatory Policies Act of 1978 (PURPA) and the Commission's Framework for Integrated Resource Planning (IRP Framework).[5]

It might be possible to devise some creative mechanisms that work around the limitations of Act 95 or extend the scope of its objectives. Indeed several provisions in the candidate mechanisms described in the Second Concept Paper seem to push the envelope of a strict interpretation of Act 95. These provisions include (a) penalties, fees and/or risks assigned to utilities as incentives to comply with portfolio standards and (b) mechanisms that promote

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[1] See comment (28) regarding the need to provide more detailed definitions for the "energy savings" components of "renewable energy" as defined in Act 95.

[2] See comment (41).

[3] See comment (34).

[4] See comment (42).

[5] See comments (29) and (43).

implementation of resources above avoided costs. These provisions appear to exceed the scope of Act 95. Implementing an expanded set of mechanisms could certainly increase the effectiveness of furthering the purposes of Act 95 but the Commission will have to evaluate whether these provisions are in violation of Act 95 and, more generally, whether it is prudent to strive beyond the literal bounds and objectives of Act 95. In any case, whatever proper scope is determined for the mechanisms, an important consideration is whether the benefits of the mechanisms (in furthering the purposes of the Act) justify the burdens and costs of implementing the mechanisms.

Act 95 seems to require that the Commission must implement at least some form of a ratemaking structure. The Act also requires that the ratemaking structure must provide at least some form of an incentive to utility companies to use renewable energy at or below avoided cost to meet the portfolio standards.

If it is determined that Act 95 will not be very effective then only a modest ratemaking structure and incentive is justified. The structure should be easy to implement and it should offer only modest incentives commensurate with corresponding expected increases in attainment of portfolio standards resulting from the incentive. An example of a minimal mechanism is described below in comment (2).

If it is determined that Act 95, strictly interpreted (non-mandatory standards implemented only at or below "least avoided cost"[6]) will be substantially effective then a more rigorous ratemaking structure might be justified. If remunerative incentives to utilities are expected to be effective then commensurate incentives could be provided. An example of such a mechanism is described below in comment (3).

If it is determined that mechanisms to attain expanded objectives (promoting resources above least avoided cost) are warranted and would be effective then more substantial mechanisms and incentives should be considered. Several examples of mechanisms and incentives are described below in comments (4) and (5).

ADDITIONAL CANDIDATE MECHANISMS FOR CONSIDERATION

Four candidate mechanisms are described below. These are offered for purposes of discussion.

The first two approaches are intended to be as simple and easy to implement as possible. The administrative burdens posed by any candidate mechanisms are an important consideration, especially if the implementation of Act 95 is not expected to yield great results. Generally, simpler is better unless there is substantial benefit in establishing rigorous new regulatory procedures.

The second two approaches are attempts to address renewable generation resources above least avoided cost. These approaches exceed the literal mandate of Act 95 but are

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[6] "least avoided cost" is a term used throughout these comments when the meaning is specifically "the lowest cost of any available alternative source regardless of resource type." This definition is intended to be consistent with FERC's interpretation of "avoided cost" as applied under the jurisdiction of PURPA. See comment (31).

generally intended to further its broadly stated purposes. The existing energy resource acquisition practices in Hawaii (under PURPA) encourage but limit the implementation of renewable generation resources to those at or below least avoided cost.[7] If the amount of new renewable resources in Hawaii is going to be increased appreciably beyond the current status quo the "action" falls in promoting desirable resources that are above the least avoided cost. There are various ways to promote desirable resources. The second two approaches described below are attempts to craft mechanisms to promote desirable resources by providing incentives to utility companies to implement these resources above least avoided cost while comporting with the Federal Energy Regulatory Commission (FERC) interpretations of PURPA.

(2) SIMPLE TINY CARROT APPROACH

If it is determined that Act 95 will not be very effective but that a ratemaking structure and incentives are required the following simple approach is suggested:

- For each year that a utility is in compliance with its renewable portfolio standard the utility would be entitled to recover a bonus of one hundred dollars.[8]

This simple mechanism is a ratemaking structure. It provides the utilities with an incentive to use renewable energy to attain its portfolio standards commensurate with the effectiveness of Act 95's provisions. It ensures that the structure will not decrease utility profit margins regardless of whether the standards are attained or not. It is easy to administer. It has minimal transaction costs. It has minimal negative rate impacts.

In fact, this mechanism has very little impact on anything at all except to meet the minimum requirements of Act 95. Nevertheless, in light of the substantial limitations of Act 95, other more rigorous mechanisms and financial incentives may not actually accomplish much more than this minimal approach.

(3) SIMPLE CARROTS ONLY APPROACH

If it is determined that financial incentives could be effective means to further the purposes of Act 95 the following simple approach is suggested:

- Defer consideration of ratemaking structures and incentives for implementation of "energy savings" renewable energy resources to the Energy Efficiency Docket No. 05-0069.
- Defer determination of specific procedures for competitive bidding and generation resource acquisition to the Competitive Bidding Docket No. 03-0372.
- For each year that a utility is in compliance with its renewable portfolio standard the utility would be entitled to recover a percentage bonus on its return on equity (ROE) indexed by the fraction of utility energy produced from new cost effective (at or below

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[7] In addition to regulatory provisions (PURPA and IRP) Hawaii offers other incentives to encourage several types of renewable energy resources.

[8] This amount could be recovered annually in an existing adjustment clause.

avoided cost) renewable generation resources put in service after the effective date of the Act 95 ratemaking structure.

The percentage bonus ROE could be determined by quantitative analysis to represent an effective but reasonable incentive commensurate with the expected effectiveness of the incentive to increase the attainment of the utility portfolio standards. In order to encourage the minimization of energy costs the ROE bonus should be indexed on the amount of energy produced and not the cost of renewable energy resources.

This mechanism is a ratemaking structure. It provides the utilities with an incentive to use renewable energy to attain it portfolio standards commensurate with findings regarding the effectiveness of Act 95's provisions. It ensures that the structure will not decrease utility profit margins regardless of whether or not the standards are attained. This mechanism is straightforward to administer. Depending upon the magnitude of the bonus on ROE the mechanism would have rate impacts that should be considered in proportion to identified benefits.

This mechanism meets the requirements of Act 95 but does nothing to encourage use of renewable energy resources beyond what is already required by PURPA and/or the Commission's IRP Framework.[9]

(4) COMPREHENSIVE CARROTS ONLY APPROACH

If it is determined that it is reasonable to encourage the use of certain renewable energy resources above least avoided cost (as determined, for example, in an approved utility IRP) the following approach suggested:

- Defer consideration of ratemaking structures and incentives for implementation of "energy savings" renewable energy resources to the Energy Efficiency Docket No. 05-0069.
- Defer determination of specific procedures for competitive bidding and generation resource acquisition to the Competitive Bidding Docket No. 03-0372.
- In the utility IRP it would be determined which specific resources and/or types of resources best meet the IRP objectives. Consistent with IRP principles the determination of preferred resources includes consideration of several objectives other than minimization of direct dollar costs and could identify preferred resources that cost more than the utility's least avoided cost.
- As presently required, the utility would explicitly identify the specific programs (resources)[10] necessary to implement its long term IRP in the Program Implementation Schedule of the IRP.

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[9] The financial incentive is indexed on the fraction of energy only from cost effective (at or below avoided cost) renewable energy resources.

[10] The IRP Framework requires the utility to provide and update annually a Program Implementation Schedule in which is provided a schedule by year of the "programs" identified to implement the approved long term integrated resource plan. "Programs" is a general term that includes all resources and actions to meet the approved IRP.

- The Commission would allow the utility to recover the costs of implementing the resources included in the approved IRP even if those resources are above the utility's least avoided cost.
    - For generation resources built and financed by the utility the allowed costs would be the actual prudent costs including AFUDC just as determined by existing practices or as might ultimately be determined in the Competitive Bidding Docket No. 03-0372.
    - For a generation resource built and financed by a third party and contracted by a power purchase agreement (PPA) the allowed cost would be the actual PPA costs. The reasonableness of the PPA costs would be determined by (a) consistency with the approved utility IRP, (b) comparison to the cost of the utility to build the resource or acquire a similar resource and possibly (c) the result of any approved competitive bidding process.
- For each year that a utility is in compliance with both its renewable portfolio standard ***and*** its current Program Implementation Schedule[11] the utility would be entitled to recover a percentage bonus ROE indexed by the fraction of utility energy produced from new renewable generation resources acquired after the effective date of the Act 95 ratemaking structure.

The percentage bonus ROE could be determined by quantitative analysis to represent an effective but reasonable incentive commensurate with the expected effectiveness of the incentive to increase the attainment of the utility IRP objectives. In order to encourage the minimization of energy costs the ROE bonus should be indexed on the amount of energy produced and not the cost of renewable energy.

This mechanism goes beyond the explicit provisions in Act 95. The financial incentive could encourage the use of resources that are above least avoided cost. The magnitude of the financial incentive would be based on the extent to which utility IRP objectives are furthered rather on the extent to which Act 95 portfolio standards are attained. In other respects it would appear that the mechanism is consistent with Act 95 provisions.

Nothing in this mechanism would require a utility to purchase power above least avoided cost. Resources above least avoided cost would be encouraged by the bonus ROE financial incentive.

(5) COMPREHENSIVE CARROTS AND STICKS APPROACH

This approach is similar to the immediately previous approach except that a more complete distinction is made between (a) mechanisms at or below least avoided cost and (b) mechanisms above least avoided cost. This approach leaves more completely to PURPA and Act 95 the realm of regulation at or below avoided cost. A distinct and separate mechanism is identified for encouraging use of renewable resources above least avoided cost. This distinction is made for several reasons:

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[11] Specific milestones could be identified in the Program Implementation Schedule.

- Extensive financial incentives are not necessary or effective at or below avoided cost.
    - Utilities are already required to purchase power from renewable generation resources at or below avoided cost (by PURPA) and to acquire preferred resources at or below avoided cost (by the IRP Framework).
    - It is not clear that financial incentives would appreciably increase the use of renewable resources at or below avoided costs beyond what would be the case without financial incentives.[12]
- Financial incentives have a more important role to play to encourage renewable generation resources above avoided cost.
    - FERC's interpretation of PURPA prohibits state regulatory agencies from requiring utilities to purchase power above least avoided cost.[13] A financial incentive could here replace this missing federal stick. Nothing in federal law or regulations prevents a state regulatory agency from allowing a utility to willingly purchase renewable energy at above avoided cost.[14]
- Act 95 prohibits any mechanisms that could possibly decrease utility profits. This prohibition applies only to ratemaking structures implemented under Act 95 which are defined as structures to encourage use of energy from renewable resources *at or below* avoided cost. For mechanisms separate and apart from Act 95 to encourage use of preferred renewable generation resources *above* avoided cost this prohibition does not apply.[15]

The approach is as follows:

- Defer consideration of ratemaking structures and incentives for implementation of "energy savings" renewable energy resources to the Energy Efficiency Docket No. 05-0069.
- Defer determination of specific procedures for competitive bidding and generation resource acquisition to the Competitive Bidding Docket No. 03-0372.
- In the utility IRP it would be determined which specific resources and/or types of resources best meet the IRP objectives. Consistent with IRP principles the determination of preferred resources includes consideration of several objectives other than minimization of direct dollar costs and could identify preferred resources that cost more than the utility's least avoided cost.

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[12] This would be a reasonable question to pose directly to the utilities and/or perhaps to investigate by EI's quantitative analysis.

[13] See comment (31).

[14] See comment (32).

[15] See comment (40) and preceding comments (37), (38), and (39).

- The Commission would require the utility to implement specific resource milestones that would be explicitly identified in the Program Implementation Schedule of the utility IRP.[16]
- The Commission would allow the utility to recover the costs of implementing the resources included in the approved IRP even if those resources are above the utility's least avoided cost.
    - For generation resources built and financed by the utility the allowed costs would be the actual prudent costs including AFUDC just as determined by existing practices or as might ultimately be determined in the Competitive Bidding Docket No. 03-0372.
    - For a generation resource built and financed by a third party and contracted by a power purchase agreement (PPA) the allowed cost would be the actual PPA costs. The reasonableness of the PPA costs would be determined by (a) consistency with the approved utility IRP, (b) comparison to the cost of the utility to build the resource or acquire a similar resource and possibly (c) the result of any approved competitive bidding process.
- For resources ***at or below*** avoided costs the Commission would implement provisions consistent with Act 95. For purposes here presume that the following mechanism (previously described) would be used:
    - For each year that a utility is in compliance with its renewable portfolio standard the utility would be entitled to recover a percentage bonus return on equity (ROE) indexed by the fraction of utility energy produced from new cost effective (at or below avoided cost) renewable generation resources and put in service after the effective date of the Act 95 ratemaking structure.
- For each year that a utility is in compliance with the required resource milestones identified in its current Program Implementation Schedule the utility would be entitled to recover a percentage bonus return on equity (ROE) indexed by the fraction of utility energy produced from new renewable generation resources acquired ***above*** avoided cost and put in service after the effective date of the Act 95 ratemaking structure.
- For each year that the utility is not in compliance with the required resources identified in its current Program Implementation Schedule the utility would be assessed a penalty commensurate with level of bonus ROE incentives provided for compliance.[17]

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[16] Consistent with the IRP Framework the Program Implementation Schedule would be updated annually.

[17] This penalty would fall outside of the scope of Act 95 and is would not be prohibited by Act 95. The penalty does not pertain to the RPS and applies only to the fraction of new renewable resources acquired above avoided cost.

This approach relies on several premises all of which are subject to further examination and all of which are necessary for the approach to be feasible. The approach presumes that:

- (a) the Commission can require a utility to acquire a specific resource or type of resource justified and approved in a utility IRP,
- (b) the Commission would allow full cost recovery of the reasonable costs associated with the preferred resource even if above least avoided cost,
- (c) the utility would have a choice whether to build and finance the resource itself or purchase the resource by a PPA,
- (d) by choosing to purchase rather than build a resource the utility would be willingly agreeing to the resulting purchase rates (since it could otherwise exercise its option to build the resource itself) and
- (e) by way of these conditions the purchase rates would not fall afoul of PURPA or FERC regulations since the state regulatory agency would not be requiring the utility to purchase power at rates above least avoided cost.

This approach provides separate incentive mechanisms above and below avoided cost. The percentage bonus ROE that applies to resources ***at or below*** avoided cost could be determined by quantitative analysis to represent an effective but reasonable incentive commensurate with the expected effectiveness of the incentive to increase the attainment of the utility portfolio standards. Similarly, the percentage bonus ROE and level of penalties that applies to compliance ***above*** avoided cost could be determined IRP with respect to attainment of the IRP objectives.

The approach could be implemented for resources above avoided cost with only remunerative financial incentives (no penalties for non compliance) or with only penalties (no remunerative financial incentives) or with any proportionate combination. In any case, in order to encourage the minimization of energy costs any financial bonus should be indexed on the amount of energy produced and not the cost of renewable energy.

This approach goes well beyond the explicit provisions in Act 95. Whether it violates the intent or explicit provisions of Act 95 certainly merits careful examination.[18]

[18] If it is necessary to entirely extricate any mechanisms that provide penalties from the Act 95 required ratemaking structure, those mechanisms not consistent with and outside the scope of Act 95 could be promulgated in separate rulemaking or contested case proceedings.

COMMENTS REGARDING THE SEVEN CANDIDATE MECHANISMS IN THE SECOND CONCEPT PAPER

Several observations regarding the seven candidate mechanisms described in the Second Concept Paper are provided below. No attempt is made to provide comprehensive comments or state any final preferences between the options.

1ST CANDIDATE MECHANISM: REC TRADING SYSTEM

(6) REC trading systems ultimately depend upon or result in penalties or fees. Unless there is some penalty or fee associated with acquiring insufficient credits, there is no incentive for the utility to acquire credits and no base monetary value to each credit.

This mechanism needs to be examined for consistency with the Act 95 prohibition against ratemaking structures that could reduce utility profit margins. Unless all penalties or fees resulting associated with a REC system are passed on to a utility's customers these penalties or fees could result in a decrease in utility profit margins. This would seem to violate the prohibition in Act 95. If all penalties and fees are passed on to the utility customers the REC system would not provide a direct incentive to the utility company.

(7) Without a corresponding system of penalties or fees it is not clear how a REC trading system would produce a significant revenue stream.

(8) The administrative burdens and costs of this mechanism (to regulatory agencies, utilities and resource providers) should be carefully weighed against expected benefits.

2ND CANDIDATE MECHANISM: ALTERNATIVE COMPLIANCE FEES

(9) This mechanism needs to be examined for consistency with the Act 95 prohibition against ratemaking structures that could reduce utility profit margins. Unless all of the alternative compliance fees are directly passed on to a utility's customers these fees could result in a decrease in utility profit margins. This would seem to violate the prohibition in Act 95. If all fees are passed on to the utility customers this mechanism would not provide a direct incentive to the utility company.

(10) The administrative burdens and costs of this mechanism (to regulatory agencies and utilities) should be carefully weighed against expected benefits.

3RD CANDIDATE MECHANISM: PENALTIES

(11) This mechanism needs to be examined for consistency with the Act 95 prohibition against ratemaking structures that could reduce utility profit margins. Unless all of the penalties are directly passed on to a utility's customers the penalties could result in a decrease in utility profit margins. This would seem to violate the prohibition in Act 95. If all penalties are passed on to the utility customers this mechanism would not provide a direct incentive to the utility company.

(12) The administrative burdens and costs of this mechanism (to regulatory agencies and utilities) should be carefully weighed against expected benefits.

4TH CANDIDATE MECHANISM: UTILITY RECEIVES ITS OWN AVOIDED COST ESTIMATE

(13) This mechanism puts utility companies at risk in a manner that could decrease utility profit margins. It needs to be examined for consistency with the Act 95 prohibition against ratemaking structures that could reduce utility profit margins.

(14) The mechanism relies upon the utility's risk in estimating avoided costs as a means to encourage unbiased estimates. The overall risk created by the mechanism should be carefully considered. Generally, one way or another, increased utility risk ultimately equates to increased revenue requirements and/or reduced utility profits, especially if the risk is perceived by the financial community. It is also not certain that relying on utility risk in estimating avoided costs will result in unbiased and correct estimates of avoided costs. The propensity of this mechanism for gaming should be considered.

(15) The mechanism as described relies upon a determination of the "true low cost" of resources. It is not clear how this could be determined.

(16) The administrative burdens and costs of this mechanism (to regulatory agencies and utilities) are substantial and should be carefully weighed against expected benefits.

5TH CANDIDATE MECHANISM: UTILITY RECEIVES A DIFFERENCE SHARE

(17) The administrative burdens and costs of this mechanism to the regulatory agencies, utilities and other stakeholders are substantial and should be carefully weighed against expected benefits.

(18) It should be considered whether it is possible to maintain timely and accurate estimates of avoided costs with the resources available to the Commission and stakeholders in the context of existing regulatory procedures. Will it take as much time as the IRP process to analyze, set, review, approve and periodically update avoided costs? Will this process include contested case review?

(19) With this mechanism utility customers are put directly at risk by any inaccuracy of the Commission's determination of avoided costs.

6TH CANDIDATE MECHANISM: CLAW BACK OF INCREMENTAL UTILITY PROFIT

(20) This mechanism relies fundamentally upon penalties that put the utility companies at risk in a manner that could decrease utility profit margins. It needs to be examined for consistency with the Act 95 prohibition against ratemaking structures that could reduce utility profit margins.

(21) The administrative burdens and costs of this mechanism (to regulatory agencies and utilities) are substantial and should be carefully weighed against expected benefits.

7TH CANDIDATE MECHANISM: UTILITY RECEIVES PAYMENT BASED ON A MULTIPLIER

(22) The administrative burdens and costs of this mechanism (to regulatory agencies and utilities) are substantial and should be carefully weighed against expected benefits.

(23) The determination of the "broader economic cost of not adopting renewable energy in Hawaii" is extremely difficult. Incorporating these externalities into a ratemaking structure is complicated (conceptually, analytically and procedurally) and adds substantial uncertainty and risk to the regulatory process. The example provided for application of a multiplier effect indicates some of the necessary complexity but, even so, is simplistic in several respects.

(24) This mechanism could result in utility customers paying substantial amounts of real dollars for seemingly abstract and indirect externality costs.

(25) This mechanism puts utility companies at risk in a manner that could decrease utility profit margins. It needs to be examined for consistency with the Act 95 prohibition against ratemaking structures that could reduce utility profit margins.

(26) The overall risk created by this mechanism is substantial and should be carefully considered. Generally, one way or another, utility risk ultimately equates to increased revenue requirements and/or reduced utility profits, especially if the risk is perceived by the financial community.

QUESTIONS FOR QUANTITATIVE ANALYSIS

(27) THE EFFECTIVENESS, BENEFITS, BURDENS, AND COSTS OF THE CANDIDATE INCENTIVE MECHANISMS SHOULD BE CHARACTERIZED

In order to determine whether each of the various candidate incentive mechanisms is justified by its administrative overhead and costs, the effectiveness of the mechanism should be evaluated. This important determination would be aided by some methodical characterization and analysis.

The burdens and costs of each mechanism to the various stakeholders should be characterized. The administrative burdens and procedural requirements of each mechanism should be carefully assessed.

The pertinent question regarding effectiveness and benefits is: to what extent will each mechanism further the purposes of Act 95 compared to what would happen without the mechanism? From a modeling standpoint this determination could be similar to the "resource in – resource out" approach used in the differential revenue requirements studies now used to determine avoided costs. Instead, it would be a "mechanism in – mechanism out" modeling approach.

The technical approach used in modeling can perhaps be addressed at the technical workshop on October 5, 2005. What is important more generally (and falls more into the realm of policy) is how the questions for quantitative analysis will be framed. Hopefully one thing the quantitative analyses will do is inform the Commission and other stakeholders

regarding whether each candidate mechanism will be effective and worth its trouble and costs.

(28) CLARIFICATION IS REQUIRED REGARDING HOW ENERGY SAVINGS WILL BE DETERMINED

Act 95 provides that electrical energy savings brought about by the use of a list of measures and technologies are included within the definition of renewable energy considered in determining the attainment of the RPS. There are substantial uncertainties regarding how the energy savings will be determined.

- There is some inevitable uncertainty in the quantification of energy savings. Energy savings cannot be directly metered like the generation components of renewable energy. Energy savings can be quantified only indirectly by derived estimates.[19]
- The scope of energy savings to be considered in the definition of "renewable energy" in Act 95 need clarification.
    - "quantifiable energy conservation savings"
        - Does this include only savings from utility-sponsored programs?
        - Does this include the impacts of state-sponsored programs?
        - Does this include the impacts of state or county energy codes?
        - Does this include the impacts of federal appliance efficiency standards? If so, starting at what date?
    - "solar and heat pump water heating"
        - Does this include the impacts of all solar and heat pump water heaters installed in Hawaii, or only utility-sponsored programs?
        - Does this include only impacts of units installed that directly replaced existing electric water heaters (as opposed to gas water heaters and/or new construction with undermined alternate sources)? How is this distinction to be determined?
    - "seawater air-conditioning district cooling systems"
        - Does this include only utility-sponsored systems? If so, what threshold of utility involvement would establish a system as a utility program?
        - How are displaced electric loads to be determined?
    - "rejected heat from co-generation and combined heat and power systems"
        - Does this apply only to the extent that heat is used to displace existing electric loads? How will the contribution be determined in new

[19] Estimates of energy savings are calculated based on the difference of actual energy consumption (which ultimately can be metered) and some hypothesized estimate of what consumption would take place without implementation of the savings measure.

construction where it may not be determined whether alternative loads would have been served by electricity, gas or solar sources?

- It is not clear what analytical methods will be used to quantify the energy savings components of renewable energy.
- It is not clear who will conduct the quantification of energy savings, how the estimates will be reviewed and approved.

In the near term the analytical methods and scope of definitions of the components of energy savings will have do be determined in order to do meaningful analysis of the impacts of Act 95 and the various ratemaking structures that are being considered. In the longer term, in order to implement Act 95, the administrative responsibilities necessary to quantify, review and approve estimates of energy savings will have to be determined.

To the extent that the attainment of the portfolio standards is used to determine substantial incentives payments or other critical consequences, precise definitions of the procedures and the scope of the components of energy savings will be necessary.

ASSERTIONS REGARDING AVOIDED COSTS

(29) PURPA REQUIRES UTILITIES TO PURCHASE ENERGY FROM RENEWABLE RESOURCES AT OR BELOW AVOIDED COST

The Public Utilities Regulatory Policy Act of 1978 and resulting federal and state rules require that electric utilities must purchase power offered by qualifying renewable energy providers at wholesale prices at or below the cost of power otherwise produced (or purchased) by the utility. This remains the existing law in Hawaii. Neither Act 95 nor the new federal Energy Policies Act of 2005 change this requirement.[20]

(30) ACT 95 LIMITS THE APPLICABILITY OF RPS TO RESOURCES AT OR BELOW AVOIDED COST

Act 95 limits the applicability of the renewable portfolio standards established for each utility to those that are "cost effective". "Cost effective" is defined as at or below avoided cost.[21]

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[20] The Energy Policy Act of 2005 does, however, terminate the applicability of power purchase requirements for most fossil-fuel cogeneration facilities. FERC is required to issue a new rule to define qualifying cogeneration facilities to ensure that "the electrical, thermal and chemical output of the cogeneration facility is used fundamentally for industrial, commercial, or institutional purposes and is not intended fundamentally for sale to an electric utility…" [EPACT 2005, Subtitle E, Section 1253,(a) amending PURPA (16 U.S.C. 824a-3) by adding new paragraph (n)] The new rule will not affect requirements for the continuation or renewal of existing qualifying cogeneration facility contracts. The new definition, if previously applied, would have excluded most of the qualified cogeneration facilities previously contracted under PURPA and the Hawaii Commission's rules in Hawaii.

[21] HRS 269-91 [Definitions].

(31) FERC INTERPRETS AVOIDED COSTS TO BE THE LEAST AVOIDED COST OF ANY TECHNOLOGY AVAILABLE TO THE UTILITY

As noted in paragraph 192 in Appendix E of the Second Concept Paper, the FERC has determined that state regulatory commissions cannot require electric utilities to purchase power from qualifying facilities at above the cost of power available from any other alternative source. Avoided costs applied under PURPA cannot be determined by methods (including competitive bidding procedures) that limit alternatives considered in determining avoided costs to particular types of resources or set asides. Avoided costs must be determined by the least cost of any available sources of power (least avoided cost). Competitive bidding used to determine PURPA avoided costs must be all source bidding procedures.

(32) THE COMMISSION CAN REQUIRE UTILITIES TO ACQUIRE SPECIFIC TYPES OF RESOURCES ABOVE LEAST AVOIDED COST

A fundamental precept of integrated resource planning is that the selection of resources should depend on many factors, not just minimizing direct dollar costs. This can result in determination of preferred resources that may have direct dollar costs that exceed those of the least-dollar-cost resource.

Nothing in PURPA or FERC's interpretations of PURPA precludes state regulatory agencies from requiring utilities to build particular types of generation resources in accordance with integrated resource planning. Indeed FERC affirms the authority of state regulatory agencies to make resource planning decisions, diversify generation portfolios to meet environmental goals, account for environmental costs in setting avoided costs (in all source bidding procedures), and to "require a utility to construct generation capacity of a preferred technology or to purchase power from the supplier of a particular type of resource."[22] In pursuing policy choices regarding particular generation technologies, however, state regulatory agencies must consider PURPA and FERC regulations and cannot ***require*** a utility to ***purchase*** power at a rate in excess of the least avoided cost.[23]

The following argument, which could certainly be enlightened (or refuted) by open discussion, is offered for possible consideration at the October workshop: (a) Nothing in PURPA or FERC regulations prohibits a utility from willingly purchasing power at above least avoided cost. (b) Nothing apparently prohibits a state regulatory agency from requiring a utility to build a specific type of generation resource based on merits justified in approving or modifying an integrated resource plan. (c) If a state agency does require a utility to build a specific type of resource ***and*** the utility willingly chooses instead to acquire the resource by purchase from another provider by contract *and* the state agency approves and allows recovery of the rates for the power purchase agreement, there would seem to be no violation of PURPA or FERC's regulations (even if the rates for purchase are above least avoided cost).

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[22] Southern California Edison Company, *Order on Petitions for Enforcement Action Pursuant to Section 210(b) of PURPA*, Docket No. EL95-16-000, 70 F.E.R.C. @ 61,215 (February 23, 1995) at page 23

[23] Ibid.

(33) THE COMMISSION CAN PROVIDE INCENTIVES TO UTILITIES TO PURCHASE POWER AT ABOVE LEAST AVOIDED COST

FERC prohibits state regulatory agencies from requiring utilities to purchase power at above least avoided cost. Nothing seems to prohibit utilities from willingly purchase power at above least avoided cost. The Commission could provide incentives to encourage utilities to willingly purchase power at above least avoided cost.[24]

ASSERTIONS REGARDING ENSURING NO DECREASED UTILITY PROFIT MARGINS

(34) ACT 95 REQUIRES THE COMMISSION TO ENSURE THAT THE REQUIRED RATEMAKING STRUCTURE DOES NOT DECREASE UTILITY PROFIT MARGINS

Act 95 states requires the Commission to

> Gather, review and analyze empirical data to determine the extent to which any proposed utility ratemaking structure would impact electric utility companies' profit margins, and to ensure that these profit margins do not decrease as a result of the implementation of the proposed ratemaking structure;[25]

(35) IMPACTS ON UTILITY PROFIT MARGINS SHOULD BE INTERPRETED ON-THE-MARGIN, CETERIS PARIBIS[26]

The requirement that the Commission must ensure that "profit margins do not decrease as a result of the implementation of proposed ratemaking structure" should be narrowly construed within the specific context of the text and with a reasonable interpretation in the context of established ratemaking principles.

- The requirement should only apply to any ratemaking structure that is implemented specifically in response to Act 95, prior to December 31,2006, to provide incentives to encourage use of energy from renewable resources at or below avoided cost to meet the renewable portfolio standards.
- The term "as a result of" the implementation of the proposed ratemaking structure should be interpreted as "due to the effects of" the proposed ratemaking structure. The interpretation should not mean that, as a result of the implementation of the ratemaking structure, the Commission shall ensure that utility profit margins do not decrease.

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[24] Note that this would be separate from incentives required by Act 95. Act 95 requires the Commission to implement a ratemaking structure to provide incentives that encourage use of resources *at or below* avoided cost.

[25] HRS 269-95 (2).

[26] "Ceteris paribis" means "all other things being equal". This term is commonly used (and dearly loved) by economists to proclaim a limited frame of reference for evaluation of a hypothesis or a theory that might hold true only to the extent that other factors (those not specifically addressed) are presumed to remain constant.

- The requirement should be interpreted regarding the *marginal* effects on utility profits resulting from the specific provisions of the ratemaking structure *assuming that all other things remain equal*. The ratemaking structure should not be required or applied to maintain utility profit margins in light of any other factors.

These assertions seem to be consistent with the intent of the Act 95. A broader or alternate interpretation would run afoul of well accepted ratemaking principals.

(36) ANY NET MONETARY PENALTIES ESTABLISHED AS A PART OF THE ACT 95 REQUIRED RATEMAKING STRUCTURE WOULD APPEAR TO BE DIRECTLY PASSED ON TO UTILITY CUSTOMERS

The Commission is required to ensure that any ratemaking structure implemented in accordance with Act 95 must ensure that utility profit margins are not decreased. It would seem logically to follow that any penalties imposed to the utility as a part of the ratemaking structure would have to be passed on directly to the utilities' customers.

ASSERTIONS REGARDING THE SCOPE OF THE REQUIRED RATEMAKING STRUCTURE

(37) THE SCOPE OF THE REQUIRED RATEMAKING STRUCTURE IS NECESSARILY LIMITED TO ONE OR MORE MECHANISMS RATHER THAN ANY MAJOR OVERHAUL OF THE EXISTING FUNDAMENTAL RATEMAKING STRUCTURE

A "ratemaking structure" could be interpreted to be the fundamental structure upon which a utility's rates are determined. A ratemaking structure could also mean a mechanism or combination of mechanisms that address only specific aspects of a utility's rates.

At the first Act 95 Workshop several speakers presented performance based ratemaking options that would seem to include fairly comprehensive overhauls of the fundamental methods used to set utilities' rates. The mechanisms proposed in the Second Concept Paper are more limited and address only specific aspects of utility rates. In fact, some of the mechanisms would not seem to directly affect the structure of the ratemaking process at all.

A limited application of specific mechanisms (like those proposed in the Second Concept Paper) is the more reasonable and, in fact, necessary approach. First, the purpose of the utility ratemaking structure in Act 95 is specific (to encourage use of certain resources) and would not seem to merit a major overhaul of existing utility ratemaking methods. Second, the requirement that utility profit margins do not decrease as a result of implementation of the ratemaking structure categorically prohibits application of the required ratemaking structure in any broader context than the specific purposes identified.[27]

[27] Application of a requirement to ensure that utility profit margins are maintained to the fundamental ratemaking structure used to determine overall utility rates would be inconsistent with the basic tenets of utility regulation. It is not possible to set just and reasonable rates in accordance with this requirement.

(38) THE ACT 95 REQUIREMENT FOR A RATEMAKING STRUCTURE TO PROVIDE INCENTIVES APPLIES ONLY TO RESOURCES AT OR BELOW AVOIDED COST.

The applicability of the RPS required by Act 95 is specifically limited to energy produced cost effectively (defined as at or below avoided cost). Similarly, the requirement for a ratemaking structure to provide incentives to encourage use of renewable resources is limited to resources at or below avoided cost. The Commission is not required to implement any incentives for resources above avoided cost.

(39) THE ACT 95 REQUIREMENT TO ENSURE THAT UTILITY PROFIT MARGINS ARE NOT DECREASED APPLIES ONLY TO A RATEMAKING STRUCTURE THAT PROVIDES INCENTIVES TO USE RESOURCES AT OR BELOW AVOIDED COST.

The requirement for the Commission to ensure that utility profit margins are not decreased applies only to any ratemaking structure that is implemented specifically to provide incentives to encourage use of energy from renewable resources at or below avoided cost to meet the renewable portfolio standards.

(40) INCENTIVE MECHANISMS ESTABLISHED OUTSIDE THE SCOPE OF ACT 95 FOR ACQUISITION OF RENEWABLE RESOURCES ABOVE AVOIDED COST WOULD NOT BE REQUIRED TO ENSURE THAT UTILITY PROFIT MARGINS ARE NOT DECREASED.

The Commission could implement incentive mechanisms outside the scope of Act 95 to encourage the implementation of renewable resources. To the extent that these incentive mechanisms encourage use or implementation of any desirable renewable resource that are above avoided cost, the incentive mechanisms would fall outside the scope and provisions of Act 95. They would also fall outside the provisions of Act 95 that prohibit any incentives mechanisms from eroding utility profit margins.

ASSERTIONS REGARDING THE POTENTIAL EFFECTIVENESS OF ACT 95

(41) ACT 95 IS NOT A MANDATORY STANDARD BY ITS OWN PROVISIONS

Act 95 is not a mandatory renewable portfolio standard for several reasons.

- Although Act 95 requires each utility to establish a portfolio standard, nowhere in the Act is a utility required to attain its portfolio standard.
- There are no penalties or consequences for failing to meet the portfolio standards.
- The Commission is prohibited from implementing any penalties or consequences to enforce the standards that could cause utility profits to decrease.

(42) ACT 95 CANNOT BE IMPLEMENTED BY THE COMMISSION AS A MANDATORY RENEWABLE PORTFOLIO STANDARD

In previous comments provided to the Commission by Haiku Design & Analysis on November 15, 2004 regarding the Act 95 Workshops Initial Concept Paper it was asserted that “[i]t is clear that the Commission could implement the provisions of Act 95 as effective mandatory renewable portfolio standards.” In order to do so it was asserted that the

Commission would have to (1) require that the utilities attain the standards (2) include some provisions, in its ratemaking structure or otherwise, that give some teeth to this requirement and (3) provide for the establishment of avoided costs sufficient to meet the costs of implementing the renewable resources.

The previous comments presumed (erroneously) that the legislature would repeal or modify the requirements in Act 95 that require the Commission to ensure that the required ratemaking structure will not decrease utility profit margins. These requirements were not repealed or modified and essentially prevent the Commission from implementing provisions to provide penalties, compliance fees or any teeth to make the portfolio standards effectively mandatory.

The previous comments also identified a mandatory approach to provide "avoided costs" for renewable energy that exceed least avoided cost. A more carefully described approach is described in comment (5) above. These approaches could be considered mandatory but are not, strictly speaking, RPS mechanisms.

(43) ACT 95 DOES NOT ENCOURAGE RENEWABLE GENERATION RESOURCES BEYOND THOSE ALREADY REQUIRED BY STATE AND FEDERAL LAW

Act 95 applies only to mechanisms and/or incentives to encourage renewable resource use at or below avoided cost. To the extent that these resources are within the control or influence of the electric utilities the use of these resources is already required by PURPA and by the Commission's IRP Framework.